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MONTANA'S NATURAL RESOURCES

elway-Bitterroot Wilderness

Montana Department of Fish, Wildlife, and Parks

WILDERNESS

STATE DOCUMENTS

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"But in those remnants of a wild empire. . . we today can still find beauty and solitude; have a taste of living fully, intensely, and freely in the moment; sense the thrill of exploring the unknown; and have the inexpressible satisfaction of being part of an untamed environment."

—Frank E. Craighead

PLEASE RETURN

Montana has almost two million acres of the last remaining wilderness areas in the United States—22 percent of the designated wilderness and primitive areas in the nation, and 9.5 percent of all roadless land. These wildernesses, probably more remote than any place in the United States except Alaska, offer places to hike or climb, float rivers, ski, hunt and fish, ride horseback, study nature, and photograph wildlife. During a few days in any one of Montana's wilderness areas visitors can see more wild country and more spectacular sights than they could have imagined.

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Recreation is an important use of wilderness, but these remote areas are even more valuable in other ways. They provide protected habitat for wildlife, including endangered species such as the grizzly bear. They serve as living outdoor laboratories for scientific study and preserve unique places that are affected very little by human activities. Those wildernesses in Montana's western mountains also have high value as watersheds—that is, regions or areas that supply water to a lake or river. (For more information on watersheds, see the Forests chapter of this series.)

What is a Wilderness?

A wilderness can be a prairie grassland, a desert, a coastal marsh, or a rugged mountain area. However, the principal characteristic that all wildernesses have in common is, as the Wilderness Act* states, "the absence of man's works"—roads, transmission lines, buildings, or other human structures. The National Wilderness Preservation System sets aside federal lands that are representative of their regions and, at the same time, unique as undisturbed ecosystems (that is, a community of plants and animals that maintains a balance within its environment).

The Wilderness Act required reviews of federal lands that had already been selected as "primitive areas," and of others with wilderness qualities. The review was made to decide which areas should be preserved as wildernesses. The inventory of these National Forest lands, called the Roadless Area Review and Evaluation (RARE), was begun in 1967 by the U.S. Department of Agriculture Forest Service. Reviews were made later on lands managed by other U.S. agencies—the Bureau of Land Management, the National Park Service, and the Fish and Wildlife Service. Some reviews are still being made.

Over 12 million acres of roadless areas were selected for wilderness study. As a result of these studies, Congress classified additional areas as wilderness. Montana added land to several of her wilderness areas and some new ones were designated.

*The Wilderness Act

(This excerpt is taken from Public Law 88-577, enacted by Congress on September 3, 1964.)

Section 2. (c) A wilderness, in contrast with those areas where man and his own works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammeled by man, where man himself is a visitor who does not remain. An area of wilderness is further defined to mean in this Act an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions and which (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) has at least five thousand acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition; and (4) may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value.

Montana's Wilderness Areas

All but two of Montana's fourteen wildernesses are in the mountains of the western third of the state. These western wildernesses share certain similarities—all have rugged terrain, splendid scenery, a variety of wildlife, and most have many lakes and rivers. The remaining two areas preserve different types of landscapes in the eastern part of the state—the "breaks" along the Missouri River and the grassland lakes of the glaciated northern plains. In this chapter, all our present wilderness areas are briefly described; a map (figure 1) gives their locations.

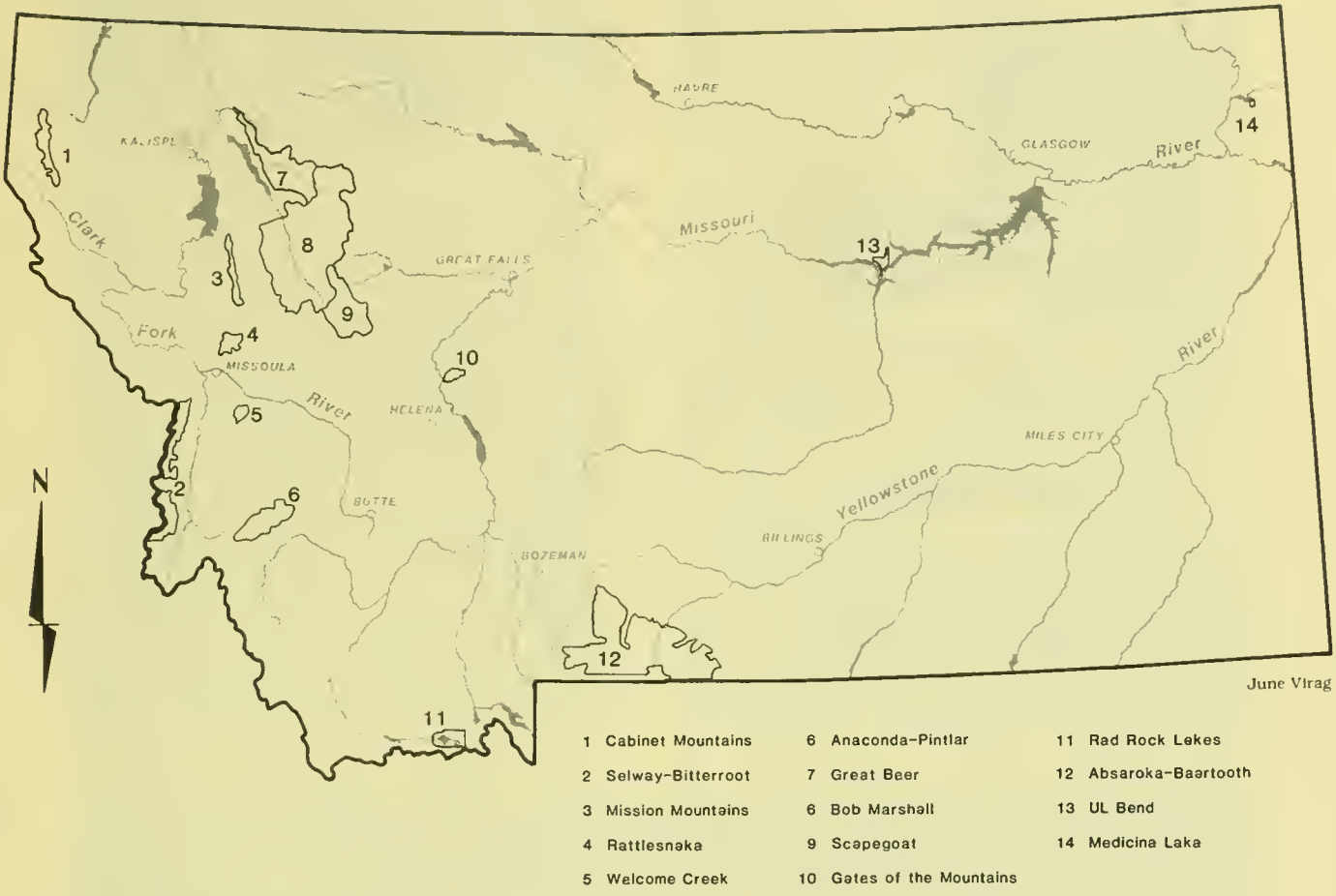

Figure 1. Montana's Wildernesses

Cabinet Mountains *(94,272 acres)*

This 35-mile-long wilderness follows the western slope of the Rockies south of Libby in northwestern Montana. Originally classified as a primitive area in 1935, the Cabinets became a part of the National Wilderness System in 1964. Early French settlers gave this mountain range its name because the sharply angled peaks looked like cabinets, when seen from the valley below. Although its peaks are not as high as many in Montana, they seem so because the surrounding country is relatively low. Snowshoe Peak, 8,712 feet, is the highest point in this range.

Besides spectacular scenery, this area has numerous small streams and about 85 alpine lakes. Many of these glacial lakes originally had no fish in them; in the early 1900s fish were brought in by pack animal. Later, aerial plantings were made; today's angler can try for rainbow and brook trout, and two species of cutthroat.

The Cabinet mountains were shaped by glacial scouring into sharp high ridges, U-shaped valleys, basins or cirques, and boggy meadows. Permanent snowfields lie below several of the higher peaks. The alpine vegetation is both fragile and exceptionally beautiful.

This area is a favorite with local people; its easily accessible trails make short trips of a day or a weekend possible for hikers and campers.

Wilderness Advocates

- A Scottish immigrant, John Muir. . .
- A U.S. president, Theodore Roosevelt. . .
- Two young foresters, Aldo Leopold and Robert Marshall. . .
- A big-city lawyer, Howard Zahnizer. . .

What did they have in common? Far apart in backgrounds, they all believed in the value of wilderness as an enduring bequest to future generations.

Muir, a naturalist-forester, led the way for wilderness preservation before 1900. He enlisted the aid of "Teddy" Roosevelt, an avid outdoorsman, who, during his presidency, (1901-1909), expanded our national forests by 132 million acres. In 1924 the first U.S. Wilderness Area, the Gila, was established in New Mexico, largely through the work of Leopold. In 1930, Marshall published his landmark article on the value of wilderness; in 1935, Leopold and Marshall founded the Wilderness Society. After almost twenty years of struggle, Dr. Zahnizer, the chief architect of wilderness legislation, pioneered, with the help of many others, the passage of the Wilderness Act in 1964.

Selway-Bitterroot *(248,893 acres)*

About one-fifth of this wilderness lies in Montana; the rest is in Idaho. This area has 14 lakes in the western part. Most can be reached by anglers willing to hike a few miles; however, some headwater streams used by spawning fish are closed to all fishing. The clear, cold streams in these mountains are excellent habitat for several varieties of trout.

The Selway River, which drains a major part of this wilderness, has been included in the Wild and Scenic Rivers Act. The thrills of white-water rafting and kayaking can be enjoyed through the short summer season. Most of the Selway River course runs through deep canyon-like valleys in the center of the wilderness. The two other major rivers in the area are Moose Creek and Bear Creek, both in more open valleys.

Steep cliffs and canyons (figure 2) provide some of the best mountain goat range in the state. Other big game in this area are black bear, elk, moose, deer, and mountain sheep. Many smaller mammals such as raccoons, pikas, squirrels, and porcupine live here; the waterways have mink, beaver, muskrat, and otter. There are a small number of marten, fisher, wolverine, and lynx, although they are rarely seen.

Over 200 species of birds also spend at least part of the year here. Among them are eagles, hawks, owls, grouse, waterfowl, and small birds such as wrens and bluebirds.

Figure 2. Selway-Bitterroot Wilderness

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The forests in the Moose Creek drainage are among the oldest in the state. Many stands are from 250-500 years old. Although they show the scars of fires that occurred as long ago as 1719, these red-cedar and grand-fir forests escaped the severe fire season of 1910 (see the Forests chapter of this series).

Mission Mountains *(73,877 acres)*

This area was established as a wilderness in 1975, and holds one of the most beautiful mountain ranges in the western United States (figure 3). Its many sharp peaks, especially those in the southern part, are a challenge to hikers and climbers. Most travel in the area is by foot, and of the four to five thousand yearly visitors, most are Montanans. Many of the trails were made by Salish Indians coming to hunt big game and to fish in the lakes.

Among the higher summits are Gray Wolf Peak, Sunset Crag, Goat Mountain, Mountaineer Peak, Panoramic Peak, and Daughter of the Sun Mountain. Those who make it to the top are rewarded by panoramic views of the Bob Marshall Wilderness and the peaks of Glacier National Park.

Four glaciers remain from the time when this area was covered by vast ice fields. Glaciation carved the rugged landscape into jagged peaks, sheer cliffs, sharp ridges, and cirques. In summer the slopes around many of the alpine lakes bloom with brilliant wild flowers. Photographers also find the windbent trees along the Mission Divide a subject for striking pictures. Many streams tumble in sparkling small waterfalls into the Swan Valley to the west.

Grizzlies and mountain goats inhabit the varied terrain of alpine meadows, steep rocky inclines, and forested mountains.

Rattlesnake Mountains *(20,039 acres)*

Bordered on the north by the Jocko River, the Rattlesnake Wilderness lies northeast of Missoula. Several of the peaks in the northwestern section are near 8,000 feet; McLeod Peak, at 8,600 feet, is the highest. These mountains are dryer than the Missions to the north; rain and snowfall average from

USDA Forest Service

Figure 3. Mission Mountains Wilderness (with Gray Wolf Peak on the right)

50 to 100 inches a year. This area is a watershed for Missoula; its snow fields also provide excellent skiing.

Deer, moose, elk, and black bear live in this area, as well as smaller animals—coyote, fox, badger, bobcat, and weasel. Endangered species in the Rattlesnake Wilderness are the bald eagles that winter there, a few grizzly bears, and possibly a small number of gray wolves. The wolverine, which has almost disappeared from Montana, has been seen in this wilderness.

The waters of Rattlesnake Creek and its tributaries are home for the west slope cutthroat trout, Dolly Varden, rainbow, and brown trout. The lively ouzel, also called the "dipper" bird, thrives in the cold, rushing water of these mountain streams. The osprey, or fish eagle, can be seen on snags along the waterways watching for its next meal to swim by.

Steep, narrow valleys lead to alpine lakes, often sheltered in cirques left by ancient glaciers. On the lower portions of the Rattlesnake drainage, an observant visitor can see the marks left by the waters of glacial Lake Missoula. Between ten to thirteen thousand years ago, this lake broke through its ice dams, and emptied with a gigantic "whoosh" onto the Columbia Plateau to the west. Sedimentary rocks with complex folds and faults are typical of the area's geology. Many of the soils are loess, formed from volcanic ash that drifted from the Pacific coastal ranges.

Welcome Creek *(28,135 acres)*

Located in the Sapphire Mountains 27 miles southeast of Missoula in the Lolo National Forest, Welcome Creek (figure 4) is one of the smaller wildernesses in Montana. Rock Creek marks the eastern border of this heart-shaped area, and the crest of the Sapphire range forms a natural boundary to the west. Elevations are from 4,100 feet in Rock Creek basin to 7,723 feet on Welcome Peak.

About 25 miles of trails lead along steep ridges or in narrow valleys. The principal trail through the area follows Welcome Creek from the northwest to the southeast. Visitors coming from the east side approach on a swinging foot bridge over Rock Creek. On the north, a trail crosses the upper quarter, branching at midpoint northeast along Solomon Ridge, and another follows Sawmill Ridge.

Remnants of Montana's early mining days are preserved in this wilderness. Near Cinnabar and Carron creeks, log cabins, hand-dug ditches, and dikes mark the spots where placer miners lived and worked. Gold was discovered on lower Welcome Creek in 1888. Two years later, prospectors located richer deposits on the upper reaches; one of the largest gold nuggets ever found in the state came from this area.

Fire has had an important part in Welcome Creek's past, too. The fires that struck this wilderness through the years left forest clearings where deer and elk graze. Moose browse on lichens in old stands of the lodgepole pine that usually followed those early fires.

Black bear and mountain lion are occasional visitors in the area, and smaller animals such as pine marten, mink, and bobcat are year-round residents. Rainbow and west slope cutthroat trout inhabit the lower stretches of most of the streams.

Donald Berg

Figure 4. Welcome Creek

USDA Forest Service

Figure 5. Anaconda-Pintlar Wilderness

Anaconda-Pintlar *(157,874 acres)*

The Anaconda-Pintlar (figure 5) is a favorite with Montanans who enjoy hunting and fishing there, as well as camping and backpacking. It is within the Bitterroot, Beaverhead, and Deer Lodge national forests. Most travel is by foot, although horses are also used, and there are 280 miles of trails. Forty miles of the proposed Continental Divide Trail would traverse this wilderness.

Early trails were made by Indians and miners, trappers, sheepherders, and settlers. The area's name is a combination of the major mountain range (named for an early mining company), and the name of a Big Hole settler, Charles Pintler, who first came to the region in 1885. (Some maps use the original spelling of Pintler's name.)

The watersheds in the Anaconda-Pintlar are among the best in the area's three national forests, both for quantity and quality of water. This is because the soil is, for the most part, undisturbed, and winter snows are heavy. Some of the 120 lakes have several species of trout, and Rock Creek and the headwaters of the Big Hole River have exceptional fishing.

Both the land forms and the vegetation in the Anaconda-Pintlar have great variety. Elevations range from the 5,400-foot willow-covered flats along the Bitterroot River to the 10,793-foot pinnacle of West Goat Peak. Lodgepole and ponderosa pine, Douglas fir, and spruce make up the forests of the lower elevations. Going higher, the visitor finds aspen and the often twisted shapes of subalpine fir and whitebark pine, as well as larch. On the talus slopes and snowfields in the alpine region only the hardiest lichens and mosses can survive.

This variety of landscapes also provides habitat for many wildlife species. Elk, moose, mountain goat, and whitetail and mule deer live here. Smaller mammals such as porcupine, beaver, mink, skunk, raccoon, and muskrat are found along the waterways. Black bear, bobcat, and mountain lion range through forests and along rocky slopes. Waterfowl and upland game birds share territory with songbirds and raptors (eagles, hawks, and owls).

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Figure 6. Bob Marshall Wilderness

Great Bear *(286,700 acres)*

This recent addition to Montana's wilderness system is the state's third largest. The Great Bear forms a link between the Bob Marshall Wilderness and Glacier National Park, giving its chief resident and namesake, the grizzly bear, passage on its longest range in Montana. About 400 to 600 elk also have a winter range here on the south-facing slopes of the Flathead Range. Among other species that inhabit the area are golden eagle, ptarmigan, marten, fisher, wolverine, otter, and lynx.

This area gives visitors a choice of outdoor adventures. The wild Middle Fork of the Flathead River affords exciting white-water travel. Climbers can make ascents year-round to towering Great Northern Mountain. Although few people go to Grant and Stanton glaciers, many enjoy the beauty of the icy lakes below.

Near the southeastern part of Great Bear, people can fly in to fish, hunt, or camp, using an airstrip that was established at Schafer Meadows before wilderness designation and allowed to remain. The southwestern portion is crisscrossed by about 60 miles of trails, used by hikers (and by hunters in the fall), and providing access to the Bob Marshall Wilderness.

Bob Marshall *(1,009,356 acres)*

Of Montana's wilderness areas, the largest and oldest is the Bob Marshall. The "Bob" is named for the forester who worked for much of his life to make the public aware of the need to preserve wilderness. This huge area of over a million acres extends along the backbone of the continent in a northwest to southeast direction south of Glacier National Park. It is a deeply forested wilderness split by large river valleys, and pierced by many jagged peaks, which, although not averaging over 9,000 feet, are extremely rugged (figure 6).

Established in 1940, this area is a consolidation of three primitive areas, Pentagon, South Fork, and Sun River. It is located on the Flathead and Lewis and

Clark national forests, and has the headwaters of the South, Middle, and North forks of the Flathead River and the Sun River within its boundaries. (All three forks of the upper Flathead are classified as "Wild and Scenic" rivers.) The cold waters of these streams are home for the native cutthroat trout.

Elk from three major herds have summer range in the area; these Sun River elk herds are the largest in the nation. Most of the other big game species of North America make their homes in the region, including the largest number of bighorn sheep in the United States.

Outstanding in the "Bob's" magnificent terrain is the Chinese Wall (figure 7), a 20-mile-long limestone wall rising 1,000 feet in most places. It was formed by the Lewis Overthrust along the Continental Divide when older rock formations slid over younger ones during one of the great mountain-building episodes of our geologic past. The limestones of Prairie Reef and the Chinese Wall hold fossils of sea creatures over 500 million years old.

Scapegoat *(239,296 acres)*

The state's fifth largest wilderness, Scapegoat, was designated in 1972. It adjoins the Bob Marshall Wilderness on the south, making up the third part of this wilderness region. An outstanding landmark is Scapegoat Mountain (9,204 feet), an isolated extension of the Chinese Wall. Its reef-like limestone cliffs rise above forested slopes and a landscape marked by ancient glaciation. The lower valleys hold 14 shallow lakes; some are in glacial cirques similar to that shown in figure 8. Eroded terraces and moraines also are signs of the ice fields that once covered the area.

Several rivers, separated by the Continental Divide, pour their waters to opposite sides of the continent. The Blackfoot River runs to the west, the Dearborn to the east, and the Sun to the north and east. Many have falls and rapids. The most spectacular is North Fork Falls, located in a steep-walled canyon of the North Fork of the Blackfoot River. Some stretches of the Blackfoot and

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Figure 7. An Early-day Visitor to the Chinese Wall

Figure 8. Glacial Cirque and Lake

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the Sun suffered severe damage in the 1964 flooding, and signs of the destruction can still be seen.

Many of the wildlife species native to Montana live in this wilderness, including the endangered grizzly bear. Most migrate to lower ranges when winter's deep snows make forage or prey scarce.

Gates of the Mountains

(28,562 acres)

This area was established as a primitive area in 1948, and became a wilderness in 1964. It bears the name that the Lewis and Clark expedition gave the towering rock walls that seem to slide apart to allow a boat to pass through on the Missouri River below. It is on the northern edge of the Helena National Forest in the Big Belt Mountains.

Elevations vary from 3,750 feet near Meriweather Canyon on the Missouri River to a height of 7,980 feet on Moors Mountain. The western boundary can be reached only by boat from Holter Lake on the Missouri River. Other access is from the north past the east side of Holter Lake, on the south by trail from the Beaver Creek Road, or on the east by trail from the Figure Eight route.

The area can be crossed in a day, but 40 miles of trails give the visitor plenty of opportunity to enjoy this wilderness. Mountain sheep, goats, elk, deer, eagles, and bear live here, as well as coyote, bobcat, beaver, and smaller animals. Wildlife in the area depend on small seeps for water. There are only two small streams with short reaches that can be fished, and water is scarce.

Glaciers did not reach this region, so the geologic formations are markedly different from those of other mountain ranges to the north and west. Massive limestone deposits have been eroded into steep-walled canyons with many striking shapes and colors.

Red Rock Lakes *(32,350 acres)*

Designated a wilderness area in 1976, this chain of lakes curves along the base of the massive Centennial Mountain range, whose tallest peaks are just over 9,800 feet. (These mountains are unique because, unlike other ranges in Montana, they run east and west, rather than north and south.) This wilderness is different, too, because, although it is in the western mountains, it is neither heavily forested nor mountainous. Most of the Red Rock Lakes area is composed of shallow lakes, marshes, and sedge meadows on a broad valley floor at an elevation of 6,600 feet. Native grasslands surround the lakes and marshes. Willows, sagebrush, and other shrubs provide both cover and browse for the big game that live in the area.

Over 200 species of birds have been recorded here, and thousands of waterfowl summer in the wilderness, raising their young in the reedy marshlands. Rare trumpeter swans, Canada geese, and ducks such as mallard, gadwall, cinnamon teal, redhead, and scaup nest here. Figure 9 shows a trumpeter swan nest at Red Rock Lakes. (The Centennial range is in the background.) Great blue heron, black-crowned night heron, and both bald and golden eagle spend the summer months at Red Rock Lakes; so do numerous species of hawks, and the prairie falcon. The endangered peregrine falcon, now rare in most of the United States, nests here.

Big game—antelope, deer, and elk—live here, and about 70 moose winter in the wilderness area. The Montana form of the scarce Arctic grayling lives in some of the lakes.

No trails enter the wilderness, although the proposed Continental Divide Trail will pass along its southern boundary.

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Figure 9. Trumpeter Swan Nest, Red Rock Lakes Wilderness

USDA Forest Service

Figure 10. Granite Peak, the Highest Point in Montana

Absaroka-Beartooth

(920,377 acres)

An incredibly rugged jumble of granite peaks in the east and volcanic sediment on the west, the Absaroka-Beartooth puts a sharp edge on Montana's southern border just north of Yellowstone Park. Twenty-eight summits in this wilderness reach over 12,000 feet into the thin air of the Rockies. The highest point in Montana, Granite Peak, towers 12,799 feet over the canyons of the southern Beartooth (figure 10). Bowl-like hollows hold the remnants of the glaciers that once covered the entire Beartooth Plateau.

This area has a dramatic geologic history. Some of its formations are almost four billion years old. The granite of the eastern portion of the Beartooth was covered by sedimentary deposits; when the area uplifted, it tilted to the south and the sedimentary covering slid into Wyoming. The bare plateau that remains has both igneous (heat-formed) and metamorphic (changed) rock. (For more on Montana's geologic history, see the Minerals chapter of this series.) The plateau contains numerous alpine lakes. Trails in this wilderness lead through landscapes that have a remarkable diversity.

The Absaroka, the western portion of this wilderness, has sharp peaks, but also some less rugged mountains, forests, meadows, and several lakes. One of the highest peaks, Mount Cowan, is 11,206 feet.

The area is important as a watershed—from the nine major drainages of the Absaroka-Beartooth come 1.5 million acre-feet of water yearly. Fishing is excellent in the streams and in most of the 340 lakes.

The wildlife here is adapted to rough terrain and long, cold winters, but most migrate when winter storms come. In many years, snowfall averages 200 inches. On the bare, windy slopes mountain goats live on lichen and low-growing alpine grasses. Mountain sheep range at lower altitudes, and elk, moose, bear, and deer inhabit the forests and meadows still farther down.

UL Bend *(20,890 acres)*

Like Red Rock Lakes, this area (figure 11) was originally a National Wildlife Refuge, but a portion has recently been designated a wilderness area. It is located on two separate points of a deep southward curve of the Missouri River in the Charles M. Russell Wildlife Range along Fort Peck Reservoir. UL Bend got its name from the "UL" brand of a pioneer cattle ranch at that location.

In their journal of May 21, 1805, Lewis and Clark described this neck of land (from their viewpoint on the river) as "a waving valley, extending for a great distance to the northward, with a fertile soil which, though without wood, produces a fine turf of low grass, some herbs, and vast quantities of prickly pear." (Prickly pear is a type of cactus.)

The bison that once lived on the plains used this bend as a favorite river crossing. Big game now in the area are elk, (which were reintroduced in the 1950s), mule deer, and a few whitetail deer and antelope. Smaller animals such as coyotes, badgers, beavers, and bobcats live here. Several prairie dog towns may have attracted the rare, endangered black-footed ferret—its tracks and denholes have been seen.

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Figure 11. UL Bend

Medicine Lake *(11,800 acres)*

This chain of lakes on northeastern Montana's rolling plains lies in hollows left by receding glaciers. It includes 8,700-acre Medicine Lake, 1,280-acre Homestead Lake, and five smaller lakes. About 40 percent of the wilderness refuge is water surface; the remainder is pasture and meadow land.

Medicine Lake was established as a National Wildlife Refuge in 1935, and was designated a wilderness area in 1981. Ducks, geese, cranes, and other birds migrating to the north use it as a stopover; others nest here and raise their young. Thousands of sandhill cranes stop here to rest and feed on their way up from winter homes in Texas to their summer nesting grounds in Canada. The islands in Medicine Lake are summer homes for large colonies of double-crested cormorants, great blue herons, white pelicans, terns, and California and ring-billed gulls.

High Country

Montana Department of Fish, Wildlife and Parks

Suggested Class Projects

1. You can learn the skills you would need for a wilderness trip, such as first aid; how to select equipment, shelter, clothing, and food; identifying edible wild foods; and other survival skills. All are useful in many situations. You can also learn how to preserve wilderness by being a careful visitor. Two of the best sources, listed under "Further Reading," are books by Angier and Petzoldt.

2. A class could divide into teams to learn orienteering—that is, how to use maps and compasses to find their way in any terrain (see Kjellstrom's book in the reading list).

Further Reading

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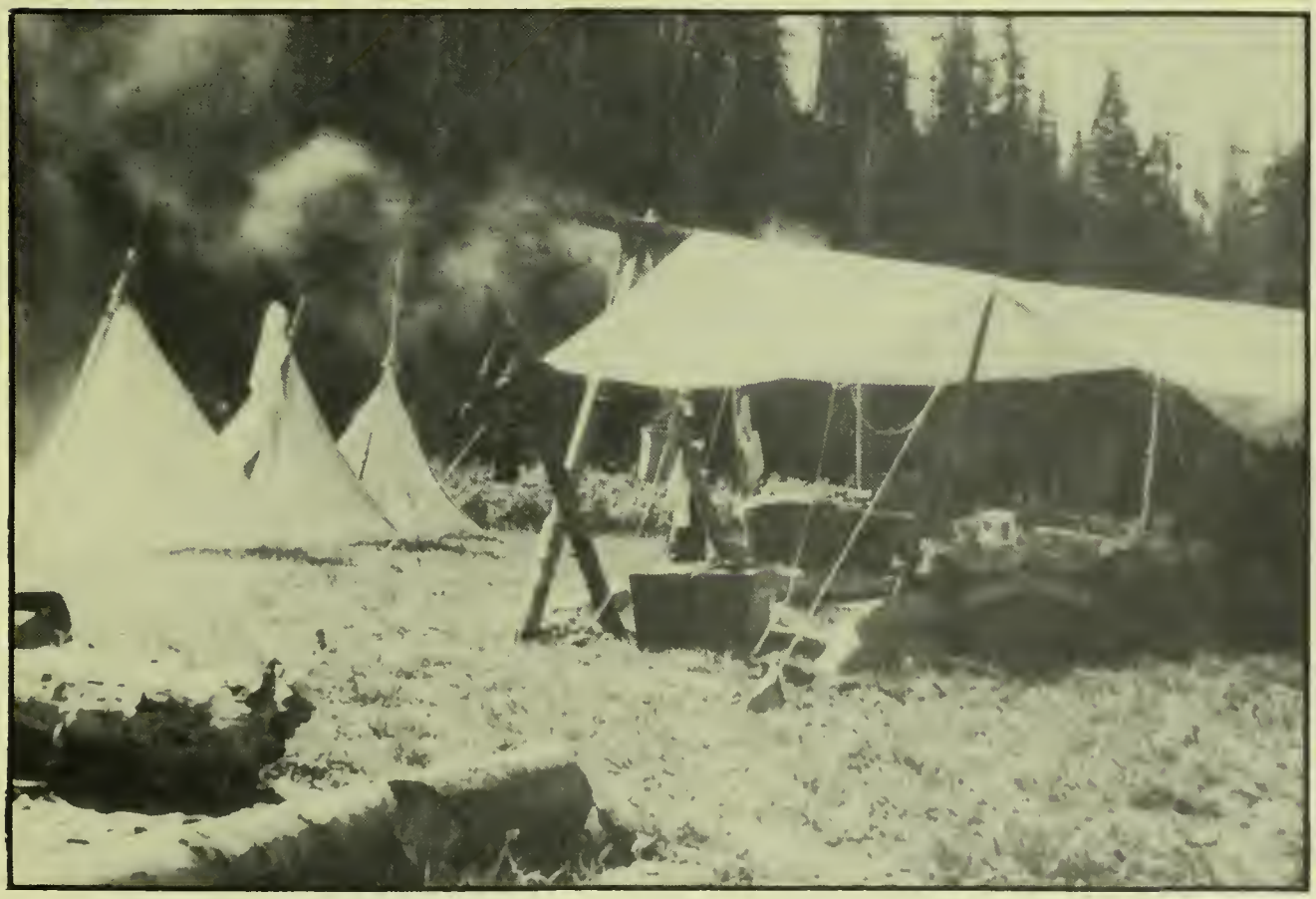
*Student reading.



Wilderness Camping, 1940s

Peggy Todd

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The Montana Department of Natural Resources and Conservation has had many requests for information about the minerals, water, forests, and other resources in Montana. This booklet is one of a series presented to answer some of those questions and to stimulate an interest in the natural resources of Montana. The University of Montana cooperated with DNRC in preparing the series which was financed in part by a federal grant made under Title I of the Higher Education Act of 1965.

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